

REMARKS

The Office Action dated July 27, 2006, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-69 are currently pending in the application, of which claims 1, 13, 22, 34, 46, and 58 are independent claims. Claims 1-57 and 58-69 have been amended to more particularly point out and distinctly claim the invention. No new matter has been added. Claims 1-69 are respectfully submitted for consideration.

Claims 13-21 were allowed, and claims 4, 7, 11-12, 24-25, 28, 32-33, 36-37, 48-49, 60-61, 64, and 68-69 were indicated as containing allowable subject matter. Applicant thanks the Examiner for this indication of allowance. Applicant respectfully submits that amendments to the claims do not adversely affect the allowability of the claims. The Office Action objected to claims 4, 7, 11-12, 24-25, 28, 32-33, 36-37, 48-49, 60-61, 64, and 68-69 as depending from rejected base claims. For the reasons explained below, it is respectfully submitted that the base claims upon which claims 4, 7, 11-12, 24-25, 28, 32-33, 36-37, 48-49, 60-61, 64, and 68-69 respectively depend should be allowed. Accordingly, it is respectfully requested that the objection to claims 4, 7, 11-12, 24-25, 28, 32-33, 36-37, 48-49, 60-61, 64, and 68-69 be withdrawn.

Claims 1-2, 6, 8-10, 58-59, 63, and 65-67 were again rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,665,278 of Grayson (“Grayson”). Applicant respectfully traverses this rejection.

Claim 1, upon which claims 2-12 depend, is directed to a method including sending a first request message having a first selected scope. The method also includes analyzing whether a confirm message is received from a discovered resource within the first selected scope in response to the first request message. The method further includes sending a second request message having a second selected scope when a confirm message is not received from a discovered resource in response to the first request message, the second selected scope being greater than the first selected scope. The method is configured to provide resource discovery.

Claim 58, upon which claims 59-69 depend, is directed to a computer program product encoding a computer program of instructions for causing a processor to locate a resource for establishing a connection thereto according to a method. The method includes sending a first request message having a first selected scope. The method also includes analyzing whether a confirm message is received from a discovered resource within the first selected scope in response to the first request message. The method further includes sending a second request message having a second selected scope when a confirm message is not received from a discovered resource in response to the first request message, the second selected scope being greater than the first selected scope.

Applicant respectfully submits that Grayson fails to disclose or suggests all of the features of any of the presently pending claims.

Grayson generally relates to wireless networked message routing. As Grayson explains at column 2, lines 3-27, Grayson's wireless communication network includes a plurality of nodes clustered for the exchange of data and control message packets. Each node has its own address. Each node also knows the address of each other node in the system. If a

node is trying to reach a particular node and fails, the node routes the message by a second node. Accordingly, Grayson does not address discovering resources. Indeed, the only discovery that Grayson could be said to make is the discovery of blockages.

Claim 1 recites a method “configured to provide resource discovery” that comprises “analyzing whether a confirm message is received from a discovered resource.” Similarly, claim 58 recites “a computer program … for causing a processor to locate a resource” and “analyzing whether a confirm message is received from a discovered resource.” Applicant respectfully submits that Grayson does not disclose or suggest at least these features of the claims.

The Office Action asserted that these features are disclosed by Figures 10 and 13 of Grayson together with column 7, lines 8-9 and column 8, lines 39-42. Applicant respectfully disagrees.

In the passages cited by the Office Action, Grayson is discussing attempting to send a message to node B (Figure 10) or TN (Figure 13 and column 8, lines 39-42). With regard to node B, the node is a known node with a known address. There is no “discovery” that goes on in locating node B. Accordingly, node B does not correspond to “a discovered resource” as recited in claims 1 and 58, nor is the process of routing and re-routing a message to node B a method “configured to provide resource discovery” as recited in claim 1.

Likewise TN, as described at column 8, lines 38-38 is a “non-existent or non-functional target.” Accordingly, TN does not correspond to “a discovered resource” as recited in claims 1 and 58, nor is the process of routing and re-routing a message to TN a “method of providing resource discovery” as recited in claim 1.

Accordingly, Applicant respectfully submits that Grayson does not disclose or suggest all of the elements of claims 1 and 58, or of claims 2, 6, 8-10, 59, 63, and 65-67 that depend respectively from them.

Applicant presented a form of this explanation previously, in the response filed May 16, 2006 (“the Previous Response”). The present Office Action responded to that line of arguments by taking the position that Grayson does disclose those features, because Grayson discloses “the node is discovered [sic] being existent or functional” according to the Office Action, at page 7. Applicant respectfully disagrees with the Office Action’s position.

The reasons that Applicant respectfully disagrees with the Office Action’s position are that it does not address the claim recitation, and that it is factually inaccurate.

The Office Action’s position fails to address what is claimed. The claims recite a “discovered resource” not the discovery of characteristics about known resources. Thus, the Office Action’s response is irrelevant, because it does not address what is claimed. Grayson is directed to dynamic routing, not discovery of resources. Whether or not Grayson discovers various characteristics of known resources (such as continued existence or functionality) is not relevant to the claim recitations, because the claim recitations recite discovery of resources, not of characteristics about the resources.

Moreover, the Office Action’s characterization of Grayson as disclosing “the node is discovered [sic] being existent or functional” is factually inaccurate. Grayson does not disclose a way to discover whether a node is existent or functional. Grayson assumes that the known nodes are existent and functional, and continues in that assumption, even if the node is not immediately reachable. That is why, at column 8, lines 10-19, Grayson says that “if the target node ... does not exist ... this may not be immediately apparent to the

originating node ... and the originating node will assume that the target node exists....”

Indeed, Grayson goes on to explain that because the originating node does not know that the target node does not exist, it may produce an endless succession of packet re-routings.

Accordingly, at column 8, lines 20-34, Grayson proposes placing a hop limit on the number of times a message packet may be re-routed. Grayson does not ever inform the originating node that known resource, *i.e.* the node, was not functional or not existent. It merely terminates the attempt to reach the node after a certain number of hops. Accordingly, nothing is discovered about the node, but rather, as pointed out above, something is discovered about the ability to communicate with the node. That is to say, the only thing that Grayson can fairly be said to discover is blockages or difficulties.

Indeed, the entire purpose of Grayson is to dynamically route, and thus Grayson is not interested in discovering resources but rather in improving communication between nodes. Therefore, it is unsurprising that Grayson does not discovery previously unknown resources, or that Grayson does not actually even discover previously unknown characteristics of known resources. Grayson is not directed to the discovery of resources.

The Office Action observed that the nodes can be identified as existent, if they respond. The Office Action’s observation that Grayson sometimes confirms that a known node is still existent and functional is not a discovery at all, but simply a confirmation of known and assumed information. Accordingly, Applicant respectfully submits that the Office Action’s position is mistaken. It is, therefore, respectfully requested that that the rejection of claims 1-2, 6, 8-10, 58-59, 63, and 65-67 be withdrawn.

The Office Action also took the position that the argument set forth above as it was presented in the Previous Response relied on “certain feature of applicant’s invention” and

the Office Action identified those as “a known address or a known node B” and stated that such features are not recited in the claims. Applicant respectfully submits that the Office Action has misunderstood Applicant’s argument. Indeed, Applicant agrees that “a known address or a known node B” is not recited in the claims. Contrariwise, the claims recite discovery, and discovery is fundamentally opposed to prior knowledge.

That discovery is fundamentally opposed to prior knowledge can easily be shown by way of example. It would, for example, be absurd to speak of Benjamin Franklin discovering that lightning is made of electricity with his famous key tied to a kite string experiment, if he already knew that electricity was the substance of lightning. Unlike Benjamin Franklin, Grayson already knows the resources in the system, and thus Grayson discovers nothing (except, as discussed above, communication blockages or difficulties).

Specifically, Grayson already knows the resources in the network (and even knows their addresses), and does not discover any resources whatsoever. In fact, even when a resource has ceased to exist or has become non-functional, Grayson does not discover this fact. Thus, Applicant respectfully submits that the Office Action’s admission that “a known address or a known node B” is not recited in the claims supports the argument for patentability. Thus, Applicant respectfully requests that the rejection be withdrawn for this additional reason.

Claims 5, 22-23, 26-27, 29-31, 34-35, 38-47, 50-57, and 62 were again rejected under 35 U.S.C. 103(a) as being obvious over Grayson in view of no other references. The Office Action asserted that although Grayson does not “explicitly teach that the originate node transmit the packet to a plurality of target nodes (a multicast group)” that this would have

been obvious because Grayson teaches “that the originate node broadcasts a packet to a plurality of nodes.” Applicant respectfully traverses this rejection.

Claims 5 and 62 depend from claims 1 and 58 respectively, and recite additional limitations. It is, therefore, respectfully submitted that fails to disclose or suggest all of the elements of claims 5 and 62, even without considering the further deficiencies identified by the Office Action. It is, therefore, respectfully requested that the rejection of claims 5 and 62 be withdrawn.

Claim 22, upon which claims 23-33 depend, is directed to an article of manufacture comprising a computer readable medium having instructions for causing a processor to locate a resource for establishing a connection thereto according to a method. The method includes sending a first request message having a first selected scope. The method also includes analyzing whether a confirm message is received from a discovered resource within the first selected scope in response to the first request message. The method further includes sending a second request message having a second selected scope when a confirm message is not received from a discovered resource in response to the first request message, the second selected scope being greater than the first selected scope. The article of manufacture is configured to provide resource discovery using multicast scope selection.

Claim 34, upon which claims 35-45 depend, is directed to a discoverer including a discovery unit. The discoverer also includes an application, operatively coupled to the discovery unit, the application configured to send a notification to the discovery unit to locate an endpoint application. The discovery unit is configured to send a first request message having a first selected scope to a multicast group, analyze whether a desired confirm message is received from an endpoint application in response to the first request message,

and send a second request message having a second selected scope when a desired confirm message is not received from the endpoint application in response to the first request message. The second selected scope is greater than the first selected scope.

Claim 46, upon which claims 47-57 depend, is directed to a discoverer including a discovery means for providing resource discovery. The discoverer also includes a notification means operatively coupled to the discovery means, for sending a notification to the discovery means to locate an endpoint application. The discovery means includes means for sending a first request message having a first selected scope to a multicast group. The discovery means also includes means for analyzing whether a desired confirm message is received from an endpoint application in response to the first request message. The discovery means further includes means for sending a second request message having a second selected scope when a desired confirm message is not received from the endpoint application in response to the first request message. The second selected scope is greater than the first selected scope.

Applicant respectfully submits that Grayson fails to disclose or suggest all of the elements of any of the presently pending claims.

Grayson is discussed above. The claims recite “a discovered resource” (claims 1, 22, and 58), “a discovery unit” (claim 34), and “a discovery means” (claim 46). As explained above, Grayson does not discover (or even try to discover) any resources. Accordingly, Grayson also does not have a “discovery unit” or “discovery means.” Applicant respectfully submit that Grayson does not disclose or suggest at least these features of the claims.

The Office Action does not remedy the above-identified deficiencies through any assertion that such features are obvious. Indeed, such features would not be obvious in view of Grayson, because the concept of discovering resources is entirely foreign to Grayson.

The Office Action, addressing other deficiencies of Grayson, suggested that it would have been obvious “to transmit a packet to a group of target nodes” “by copying the packet and transmitting the packet to each node of the group to multicast the packet.” Applicant respectfully disagrees. Grayson discusses that a broadcast address can be used to send a packet to all nodes. Grayson’s disclosure of simple broadcast does not render “multicast” obvious, because substitution of multicast for broadcast would not be expected by one of ordinary skill in the art to achieve a successful result for Grayson’s purpose. In any case, whether Grayson renders the multicast feature obvious is moot, because Grayson does not disclose the resource discovery features described above.

Instead, as explained at column 5, line 64 to column 6, line 49 thereof, in Grayson a newly “inducted” device performs an enrollment routine in which the device sends a message as shown in Figure 4 of Grayson, containing enrollment and features information. This features information is then locally stored by each node in a locally held node table, as shown in Figure 8 of Grayson. The node table holds the node addresses of the other nodes and feature information about features that the other nodes have that might be of interest to the node. Grayson also addresses how to prevent nodes with useful features from falling off the table because nodes with a greater number of useful features are added to the table.

Accordingly, in Grayson, the features of the other nodes are known to each node, and there is no need for a node to perform discovery as to the resources of its neighbor nodes.

Therefore, it would not have been obvious to modify Grayson to include either resource discovery generally, or the particular recitations identified above by the Office Action.

Arguments such as those discussed above with regard to claims 5, 23, 26-27, 29-31, 35, 38-45, 47, 50-57, and 62 as presented in the Previous Response were ignored by the Office Action. Apparently this was an unintentional oversight. The Office Action, at Page 7, asserted that “Applicant does not suggest any additional arguments further to those claims.” Applicant respectfully submits that further showing that they are further arguments with respect to those claims, and Applicant respectfully insists that the Office Action recognize the arguments and answer the substance of the arguments or withdraw the rejection.

For the reasons explained above, it is respectfully submitted that each of claims 1-69 recites subject matter that is neither disclosed nor suggested, nor otherwise obvious in view of Grayson or any of the other art of record. It is, therefore, respectfully requested that all of claims 1-69 be allowed, and that this application be passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicant’s undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,


Peter Flanagan
Registration No. 58,178

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802
PCF:kzw